B. DUAL USE SCIENCE AND TECHNOLOGY PROGRAM

The ability of the United States to retain technological superiority on future battlefields will, in many cases, depend on the Nation's ability to take advantage of technological advances occurring in commercial industry. Commercial technology developments in such areas as electronics, advanced computing, communications, and medical research, are racing forward. These commercial developments are funded at levels that vastly exceed what the Department is currently able to apply. Greater reliance on commercial technologies not only will provide the Defense Department access to advances in technologies occurring in the commercial sector but also will allow the Department to take advantage of the competitive pressures and market-driven efficiencies inherent in the commercial sector. This competitive, market-driven approach will increase the pace at which technological improvements are incorporated into defense systems, while, at the same time, reducing the costs of those systems.

The Department of Defense's Dual Use Science and Technology (DU S&T) Program is designed to help the Department incorporate commercial technologies into defense systems. The Program was established in the Fiscal Year 1998 Defense Authorization Act. It has two primary goals. The first is to jointly fund and develop dual use technologies with industry. To support this goal, the Act provides for 50/50 government/industry cost share of development. Other incentives for industry to work with DoD's DU S&T Program, besides the 50 percent project cost share by the government, include: access to technology from the government and increased market opportunities with the Military Services. In addition to these business incentives, the Department is making it easier for commercial companies to enter into agreements with the DoD by using procedures that are not subject to most of the Federal procurement laws and regulations. These procedures, known as "Other Transactions" or "Cooperative Agreements," offer a great deal more flexibility and fewer regulatory requirements than do standard government contracting. The use of alternative procedures has provided the Department the ability to attract many commercial firms that would not otherwise do business with the DoD. The second goal is to make the development of dual use technologies with industry a normal way of doing business in the Services. The FY 98 Authorization Act has established goals for the initiation of dual use projects. These goals started at 5% of each Department's applied research program in FY 98 and will grow to 15% by 2001. The Military Services are actively working to meet these goals through the DU S&T Program and, in fact, have met the FY 98 goal.

In the first two years of the program, 164 projects have been initiated with a total value of over $550 million dollars including DU S&T funds, Military Department S&T funds, and industry cost sharing funds. In addition to the growing size of investments, it is encouraging to see the number of commercial firms that have become involved in the Program.

Military Department participation in the DU S&T Program has been key to the Program's success. The execution of the Program is currently transitioning from OSD to the Services. A third solicitation for proposals was issued for FY 99 in August 1998 and closed on December 15, 1998. Unlike for the first two years, this was a joint solicitation issued by the Navy and was used as a vehicle to launch an extensive outreach effort to industry. The culmination of this effort was two DU S&T Investment Strategy Conferences held in October 1998. The first was held in the Washington DC area and had 310 participants. The second was held in Los Angeles and had 229 participants.

As a result of this solicitation the Military Departments have received 178 proposals from industry that address Service requirements in the following focus Areas:

- Affordable Sensor Technology
- Aircraft Sustainment
- Distributed Mission Training
- Fuel Efficiency & Advanced Propulsion Technology
- Information Systems & Technology
- Medical Technologies
- High Speed Vessels & Structural Systems for Large Sea-Based Structures
- Environmental Monitoring

These proposals are currently being evaluated by the Military Departments and selections are expected by the end of February 1999.

As a result of the success experienced with the joint FY 99 solicitation, a joint solicitation for FY 00 will be issued, again by the Navy. To improve the timing of the program, the solicitation will be issued in January 1999 versus August. A conference in support of this solicitation is scheduled for the end of March 1999 and proposals will be due in April.

The DU S&T Program will submit a report to Congress this March. The report will include a complete description of the program and a summary of the FY 98 projects.

Examples of Current Projects:

Active Braking System for Medium Duty Wheeled Vehicles

This FY 97 project was initiated to develop and demonstrate a commercial active braking system and low speed traction control system for the Army's HMMWV and medium size commercial trucks. The company has received its first commercial order and it is planned to demonstrate the system on the HMMWV in February 1999.

Commercial Radiation -Tolerant Submicron Microelectronics

This is an FY 98 project that will modify an existing commercial fabrication facility to make it capable of manufacturing both conventional and radiation-tolerant electronic components off the same production facility. The radiation-tolerant electronic components produced on this line will be used for both the growing commercial satellite markets as well as in military space systems. The economies of scale will result in a significant cost saving over current radiation-tolerant electronics.

Wideband Airborne Antenna Development

This is also an FY 98 project that is developing a low cost phased array antenna that will work for the Low Earth Orbit commercial satellite industry while also meeting military requirements. Two orders of magnitude reduction in cost are expected due to the economies of scales.

Next Generation Transparency

This is an FY 97 project that is demonstrating the use of injection molding to make frameless transparencies (canopies) for advanced strike aircraft. The one-piece design will improve safety and dramatically reduce manufacturing and life cycle costs of canopies. Commercial applications include automobiles and aircraft.